

**A STUDY OF ACCURACY OF REFERENCES IN M.SC. DISSERTATIONS, IN  
THE DISCIPLINE OF AGRICULTURAL SCIENCES AT COLLEGE OF  
AGRICULTURE, VIJAYAPUR AFFILIATED TO UNIVERSITY OF  
AGRICULTURAL SCIENCES, DHARWAD**

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**ABSTRACT**

*This study was done to observe the accuracy of references found in ten M.Sc dissertations, submitted to College of Agriculture, Vijayapur, affiliated to University of Agricultural Sciences, Dharwad during the year 2006 to 2015. A total of one thousand six hundred and eighty six references is randomly selected and verified for their accuracy and types of sources such as books, journals, conference proceedings, theses, dissertations and other sources are considered. Each dissertation has been identified and given numbers such as from D1.... D2.... and D10. On an average of 893 (53.00%) of the reference had citations errors. The errors were classified into two types, i.e. 421 (24.97%) as major errors and 472 (28.00%) as minor errors. The major errors include incorrect title of journals, the title of books, titles of articles, author name and citations such as wrong volume number (Mean= 05.48 and SD=02.77) and issues (Mean=05.20 and SD=02.69), years and page numbers. Minor errors include punctuations, incomplete articles (mean=05.49 and SD being 02.99), misspelling of the author's name, misspelling of titles, mistakes in volume and issue number, mistakes in year and page number are kinds of major errors found in the study. The reason behind errors or lack of awareness about citation techniques like APA, MLA, Chicago style format and lack of compilation of the bibliography are the main reasons for such error. This study suggests for imparting training for young researchers to follow appropriate reference styles and maintain the accuracy of the references.*

**KEYWORDS:** Reference Errors, Citation Errors, Reference Accuracy, Citation Accuracy, Thesis References & Referencing Style

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**INTRODUCTION**

Accurate references in research studies are essential for the not only transmission of scientific knowledge, but also for higher education. They confirm statements by the authors or refer to work important to the understanding of a text and thus enable readers to understand the context of an article. Accurate references assist the reader who wants to learn about a new field, compilation of bibliography is an art. The major objectives of writing references include the acknowledgement of research work done by other researchers, easy accessibility of relevant literature for the readers, and corroboration of the authors' statements. Referencing standards, viz. American Psychological Association, (APA), Modern Language Association (MLA), Chicago style, American Medical Association (AMA), IEEE style manual and so on. The bibliography is one of the most important

components at the level of master theses/dissertation. Accuracy of the information derived from an article comes under substantial doubt and debate if there are too many errors in the references. Accurate references allow interested readers to easily locate additional publications that are relevant to the subject of a specific journal article. Unless an error occurs in a critical element of the reference, such as journal, title, year of publication, volume, first page number etc. most of the errors would not hinder their retrieval. In Indian context the supervisor will examine both the content and structure of the whole dissertations /theses, including references, tables, figures and figure legends. There are certain guidelines, referencing standards to be followed in theses. Reference errors commonly occur, because the authors fail to adhere to such guidelines.

## OBJECTIVES OF THE STUDY

The main objectives of the study are:

- To identify the cluster references in dissertations.
- To determine the rate and type of errors in references.
- Find out various types of categories of errors in references.
- To know the different types of errors in references.

## REVIEW OF LITERATURE

**Ghane (2016)**, Studied inaccuracies in references and in-text citations in a sample of 97 of the 519 peer-reviewed journals, accredited by the Iranian National Commission for Journal Accreditation Policy. The target journals published 2,980 articles, with 74,577 cited references and 108,151 in-text citations. 36.6%, as the average percentage error rate (range 5.6% to 61.3%). For the entire sample of articles, 4,369 in-text citations did not match any source in the list of references (4%), and 8,683 cited references did not match any in-text citation (11.6%). **Abdul Samad (2013)** Evaluated references from 200 original articles. Only 19 (9.5%) articles were found to be free of error with no significant difference between the two journals the overall reference error was found to be 1015 (26.8%): 531 (31%) in JPMA and 484 (23.4%) in JCPSP. The author error was the commonest error, among these references (n=490; 13%), followed by page error (n=297; 7.9%), article title error (n=222; 5.9%), and journal title error (n=189; 5%). JCPSP had statistically significant more article errors, whereas JPMA had statistically significant more journal title and page errors. **Al-Benna and et al. (2009)**, studied the incidence and risk factors, for citation and quotation errors in two major burn surgery journals. 120 references were randomly selected two journals – January to December 2006, issues of Burns and Journal of Burn Care & Research. For each reference, the ease of retrieval on Pub Med and the presence of citation errors were noted. Of the 120 selected references, 117 referred to the articles from indexing medical journals published in English. Among these, 4 articles could not be retrieved due to fatal citation errors (3.3%). A further 12 citation error was noted giving a total citation error rate of 13.3% (95% CI: 6.74–19.93%). Of the 117 references analyzed, the quotation error rate was 13.7% (95% CI: 8.6–19.5%) half of which were major errors. (Kruskal–Wallis test;  $p = 0.861$ , type of study (Kruskal–Wallis test;  $p = 0.717$ ), author numbers (Spearman's  $\rho = 0.197$ ,  $p = 0.423$ ), article length (Spearman's  $\rho = 0.118$ ,  $p = 0.705$ ), or references per article (Spearman's  $\rho = 0.229$ ,  $p = 0.189$ ). **Boya and et al. (2008)**, examine randomly selected references collected from the Journal of Hand Surgery (American Volume), the Journal of Hand Surgery (British and European Volume), and the British Journal of Plastic Surgery, spanning the years 1998 to 2002, were evaluated for citation errors. Forty-four citations across all journals contained errors (14.6 percent). None of the errors made the cited article impossible to retrieve. Ten of the

forty-four inaccuracies were incorrect final page numbers. **Portaluppi (2007)** investigated Chronobiology disorders missed 97.6% of its pertinent articles; periodicity, 95.2%; Chronobiology, 87.7%; chronotherapy, 70%; time factors, 62.3%; and sleep disorders/circadian rhythm, 47.4%. Drug administration schedule missed 40% of the chronotherapeutic articles and identified 15% of the chronic pharmacological articles; biological. **Aronsky (2005)**, determined the rate and type of errors in biomedical informatics journal article references. References in articles from the first 2004 issues of five biomedical informatics journals, Journal of the American Medical Informatics Association, Journal of Biomedical Informatics, and The reference error rates by journal ranged from 22.1% to 40.7%. Most errors (39.0%) occurred in the author element, followed by the journal (31.2%), title (17.7%), page (7.4%), year (3.5%), and volume (1.3%) information. **O'Connor (2002)**, Assess the accuracy of references in articles published in Emergency Medicine and to categorize these errors. A sample of 100 references was then selected. Each reference was then checked, initially on an electronic database, with the original article being used as the gold standard. 1469 citations were included in the study. A random sample of 100 was taken and examined in detail. 35 papers were shown to have at least one error, and a total of 41 errors were found.

## **METHODOLOGY**

The present study has been conducted by taking ten agriculture master dissertations in the agricultural sciences discipline, shelved at the library, College of Agriculture, Vijayapur affiliated to University of Agricultural Sciences, Dharwad, and the dissertations were randomly selected for the study. All the reference sources cited in ten master dissertations were considered for the study. In all, accuracy of 1686 references in ten agricultural theses was examined during 2006-2015; the researchers have taken three master dissertations each year. The data analysis and interpretations have been done using MS-Excel software with suitable statistical techniques like mean, standard deviation and percentage. If the reference is a journal article, then the journal website was visited. The details of the articles as found in the journal website were taken as the basis for comparison. If the details for comparison was not found on journal, then the citation details as available in the Google Scholar was taken as the basis for comparison. If reference was a book or proceedings, the bibliographical details pertaining to the particular book or conference proceedings were compared with the details available in the Library of Congress database or any national library websites.

The types of errors found in references were categorized as major errors and minor errors. The major error includes incorrect journal titles, article titles, author and citations such as wrong volumes, issues, and year and page numbers. Minor errors include punctuations, incomplete article titles, incomplete author initials and an error in the page number. All the references in the ten master dissertations were checked for major and minor errors.

## **DATA ANALYSIS AND INTERPRETATIONS**

The results are presented as percentage of errors with 95% confidence intervals, for analysis researcher used MS Excel. The data for the study was collected from ten randomly selected agricultural disciplines M. Sc. dissertations submitted to college of Agriculture, Vijayapur. Three dissertations from each year from 2006 to 2015 have been considered for the study. The theses were collected from the reference section of the library.

### **Number of References**

The total number of references in the dissertation has been summarized in table-5.1

**Table 5.1: Total Number of References**

Sl. No	Dissertation Code	Year	Total Number of References	Percentage
1	D-1	2015	237	14.06
2	D-2	2014	215	12.75
3	D-3	2013	196	11.63
4	D-4	2012	167	9.91
5	D-5	2011	191	11.33
6	D-6	2010	145	8.60
7	D-7	2009	133	7.89
8	D-8	2008	160	9.49
9	D-9	2007	115	6.82
10	D-10	2006	127	7.53
			<b>1686</b>	<b>100.00</b>

Table-1 shown that, all the 1686 references collected from the master dissertations are considered in the study, as expected, the percentage of references to D-1 in the year 2015 amounting 237 references, 14.06%, followed by D-2 in the year 2014 amounting (215 references, 12.75%), D-3 in the year 2013 amounting (196 references, 11.63%) and the percentage of references D-5 in the year 2011 amounting (191 references, 11.33%).

### Type of Sources

One of the objectives of the study is to verify the accuracy of the references found in the dissertations and different types of cited references such as books, journals, conference proceedings, theses and other sources.

**Table 5.2: Type of Sources**

Sl. No	Dissertation Code	Type of Cited References					Mean Value	SD	X <sup>2</sup> Value
		Books	Journals	Conf. Proc.	Theses	Other Sources			
1	D-1	79	70	24	3	61	2.57	1.58	5.13953E-17 P < 0.05 Sig.000
2	D-2	70	93	19	3	30	2.21	1.30	
3	D-3	61	84	21	2	28	2.24	1.30	
4	D-4	58	47	36	0	26	2.34	1.36	
5	D-5	71	53	53	0	14	2.13	1.14	
6	D-6	68	42	19	0	16	1.99	1.26	
7	D-7	73	36	12	1	11	1.80	1.17	
8	D-8	82	49	23	0	6	1.74	0.96	
9	D-9	39	48	10	2	16	2.20	1.31	
10	D-10	57	27	23	1	19	2.20	1.40	
		<b>658</b>	<b>549</b>	<b>240</b>	<b>12</b>	<b>227</b>			

The Table-2 shown different types of cited references, 658 are cited books, followed by 549 are journals, 240 are conference proceedings, 227 are other sources of references like, reports, newspaper, etc. In this connection, researcher had mentioned dissertation code, such as D-1 to D-10. The D-1 is supported by mean value of 2.57 and SD 1.58, followed by D-4 is supported by mean value of 2.34 and SD 1.36, D-3 is supported by mean value of 2.24 and SD 1.30 and last but not least D-8 is supported by mean value of 1.74 and SD 0.96. The Probability of 0.05 or less is considered to be significant. Contingency table was used, when the data did not conform to the assumptions underlying the chi-square method are  $P < 0.05$  was significant.

### Average Number of Errors

The Table-3 shows that, out of 1686 cited references from master dissertations, 893 errors were found, an overall average of errors is 0.53, each thesis has at least 0.46 errors in master dissertation in agricultural discipline.

**Table 5.3: Average Number of Errors**

Sl. No	Dissertation Code	Total Number of References	Errors in References	Average No. of Errors	Percentage
1	D-1	237	108	0.46	12.09
2	D-2	215	97	0.45	10.86
3	D-3	196	106	0.54	11.87
4	D-4	167	93	0.56	10.41
5	D-5	191	68	0.36	07.61
6	D-6	145	91	0.63	10.19
7	D-7	133	83	0.62	09.29
8	D-8	160	82	0.51	09.18
9	D-9	115	93	0.81	10.41
10	D-10	127	72	0.57	08.06
		<b>1686</b>	<b>893</b>	<b>0.53</b>	<b>100.00</b>

The Table-3 shown out of 1686 cited references, 893 cited errors were found. The D-1 has 108 Errors amounting 12.09%, followed by D-3 has 106 errors amounting 11.87%, D-2 has 97 errors amounting 10.86%, D-4 has 93 errors amounting 10.41% and D-10 has 72 errors amounting 08.06%.

### Major Errors

The Table-4 shown out of 1686 cited references, 893 errors were found in that 421 are classified as major errors amounting 24.97%.

**Table 5.4: Major Errors**

Sl. No	Thesis Code	Total Number of References	Major Errors	Errors of Percentage
1	D-1	237	78	18.53
2	D-2	215	65	15.44
3	D-3	196	23	5.46
4	D-4	167	42	9.98
5	D-5	191	16	3.80
6	D-6	145	34	8.08
7	D-7	133	23	5.46
8	D-8	160	54	12.83
9	D-9	115	56	13.30
10	D-10	127	30	7.13
		<b>1686</b>	<b>421</b>	<b>100</b>

The Table-4 shown 1686 cited references, 893 cited errors were found in that 421 are major errors amounting 24.97%. Among The D-1 has 237 references there are 78 errors amounting 18.53%, followed by D-2 has 215 references which contains 65 errors amounting 15.44%, D-3 has 196 references contains 23 errors amounting 05.46, D-8 has 160 references having 54 errors amounting 12.83% and D-9 has 115 references having 56 errors amounting 13.30%.

### Minor Errors

The Table-5 shown that out of 1686 cited references, 893 errors were found, among 893 errors, 472 are classified as minor errors amounting 28.00%.

**Table 5.5: Minor Errors**

Sl. No	Dissertation Code	Total Number of References	Minor Errors	Errors of Percentage
1	D-1	237	30	6.36
2	D-2	215	32	6.78
3	D-3	196	83	17.58
4	D-4	167	51	10.81
5	D-5	191	52	11.02
6	D-6	145	57	12.08
7	D-7	133	60	12.71
8	D-8	160	28	5.93
9	D-9	115	37	7.84
10	D-10	127	42	8.90
		<b>1686</b>	<b>472</b>	<b>100</b>

The Table-5 depicts that out of 1686 cited references, 893 cited errors were found, among that 472 are minor errors amounting 28.00%. The D-3 has 196 references having 83 minor errors amounting 17.58%, followed by D-6 have 145 references having 57 minor errors amounting 12.08%, D-7 has 133 references having 60 minor errors amounting 12.71%, D-10 has 127 references with 42 errors amounting 08.90% and D-9 has 115 references with 56 minor errors amounting 13.30%.

### Type of Errors

The Table-6 depicts classification of types of errors, coded dissertation wise such as D-1 to D-10. The table-6 depicts that out of 1686 cited references, 893 errors were found. Among 893 errors, there are 472 minor errors 28.00% and 421 major errors amounting 24.97%.

**Table 5.6: Type of Errors**

Sl. No.	Type of Errors	Dissertation Codes										Mean Value	SD	CV
		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10			
1	Omission of words	8	7	2	9	8	2	9	5	9	9	5.74	3.03	52.79
2	Capitalization	9	7	4	13	10	17	5	8	10	14	5.86	2.84	48.46
3	Spelling mistakes	12	11	14	7	3	18	14	10	9	8	5.34	2.83	53.00
4	Incomplete titles	10	13	9	5	4	11	16	7	6	12	5.49	2.99	54.46
5	Punctuation error	10	9	12	8	5	11	6	21	15	11	5.94	2.95	49.66
6	Wrong Page number	10	12	10	7	7	12	7	10	8	8	5.27	2.90	55.03
7	Wrong Volume Number	4	14	9	17	12	4	8	9	12	9	5.48	2.77	50.55
8	Wrong issue number	11	7	12	3	16	9	13	5	10	4	5.20	2.69	51.73
9	Wrong Year	2	13	9	3	2	11	5	3	12	9	5.80	3.00	51.72
		<b>84</b>	<b>97</b>	<b>86</b>	<b>74</b>	<b>73</b>	<b>105</b>	<b>95</b>	<b>85</b>	<b>101</b>	<b>93</b>	<b>5.61</b>	<b>2.90</b>	

The Table-6 shown that out of 1686 cited references, 893 cited errors were found, among that 472 are minor errors amounting 28.00% and 421 are major errors amounting 24.97%. The majority of errors are Punctuation errors with mean value of 05.94 and SD 02.95, followed by capitalization errors with mean value of 5.86 and SD 02.84, error due to omission of words with mean value of 05.74 and SD 03.03, wrong volume number error with mean value of 5.48 and SD 02.77, incomplete titles is supported with mean value of 05.49 and SD 02.99, wrong year error is supported by mean value of 05.80 and SD 03.00 and wrong issue number error is supported by mean value of 05.20 and SD 02.69.

### CONCLUSIONS

Many reference errors are found in Internet resources, the majority of errors are avoidable. So, the authors, editors and the reviewers have to check and care of any errors seriously before submitting thesis, journals, books, conference proceedings, reports, etc. such as Omission of word errors, Capitalization, Spelling mistakes, Incomplete titles, Punctuation

error, Wrong Page number, Wrong Volume Number, Wrong issue number and year. The universities, guides and researchers have to pay more attention towards the preparation of reference lists. The technology has made this work simple using reference software like Bibme, Endnote, Mendeley, Zotero, Refworks, Easy Bib, reference manager and so on.

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